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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/659,821	09/11/2000	Yutaka Ikushima	197240US0	5767

22850 7590 07/03/2002

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EXAMINER

OH, TAYLOR V

ART UNIT	PAPER NUMBER
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1625

DATE MAILED: 07/03/2002

2

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicant No.

09/659,821

Applicant(s)

IKUSHIMA ET AL

Examiner

Taylor Victor Oh

Art Unit

1625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 April 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

***Non-Final Rejection***

Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 112***

Claims 1 and 2 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a non-catalytic Cannizzaro reaction, Beckmann rearrangement reaction, and etc. does not reasonably provide enablement for all the organic syntheses. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to all the organic syntheses unrelated to the invention commensurate in scope with these claims. According to the specification, a few examples of organic syntheses such as the non-catalytic Cannizzaro reaction, Beckmann rearrangement reaction, and etc. are specified, not all the organic syntheses in the field of chemistry.

Claims 3-6 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for KOH and NaOH as the basic catalysts does not reasonably provide enablement for all the the basic catalysts. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to all the basic catalysts unrelated to the invention commensurate in scope with these claims. According to the

Art Unit: 1625

specification, a few examples of the basic catalysts such as KOH and NaOH are specified , not all the basic catalysts in the field of chemistry.

while being enabling for benzaldehyde for an aldehyde, benzyl alcohol for an alcohol , and benzoic acid for an a carboxylic acid does not reasonably provide enablement for all the aldehydes, the alcohols, and the carboxylic acids . The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to all the aldehydes, the alcohols, and the carboxylic acids unrelated to the invention commensurate in scope with these claims. According to the specification, benzaldehyde for an aldehyde, benzyl alcohol for an alcohol , and benzoic acid for an a carboxylic acid are specified , not all the aldehydes, the alcohols, and the carboxylic acids in the field of chemistry. An appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1625

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over An et al (Applications of High-Temperature Aqueous Media for synthetic Organic Rxns, J. Org. Chem. 1997, 62, 2505-2511).

An et al discloses applications of high-temperature aqueous media for synthetic organic reactions such as a Cannizzaro reaction (see page 2506, the second column, lines 57-58) in which benzaldehyde has generated benzoic acid and benzyl alcohol (see page 2507, table 1, example # 36). The reference has indicated that the conditions near supercritical water of 374 °C and under pressures up to 50 atmospheres (see pages 253 ,lines 11-13) have been investigated and found that the superheated water can react in the organic reactions; furthermore, it emphasizes that other potential benefits from high-temperature aqueous media include no addition of catalyst (see page 2507, from line 9 of the first col. to line 3 of the second col.).

Art Unit: 1625

However, the instant invention differs from the reference in that the reaction is performed in the pressure range from 22.5 to 25 Mpa.

Concerning the pressure range from 22.5 to 25 Mpa, the claimed ranges and the prior art do not overlap. However, the limitation of a process with respect to ranges of pH, time, and pressure does not impart patentability to a process when such values are those which would be determined by one of ordinary skill in the art in achieving optimum operation of the process. Pressure is well understood by those of ordinary skill in the art to be a result-effective variable especially when attempting to control selectivity of a chemical process.

Therefore, it would have been obvious to the skillful artisan in the art to have motivated to modify the reaction pressure to the claimed pressure range in the An et al method by a routine experimentation ,thereby controlling the selectivity of a chemical process.

Any inquiry concerning this communications from the examiner should be directed to T. Victor Oh whose telephone number is (703)305-0809. The examiner can be normally reached on Monday through Friday from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Alan Rotman, can be reached on (703) 308-4698. The fax number for the organization where this application or proceeding is assigned is (703)308-2742.

✓  
6/28/02

*Alan L. Rotman*  
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SUPERVISORY PATENT EXAMINER  
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